ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh metabolit sekunder jamur entomopatogen isolat asal Desa Cipete, Papringan, dan Pasir Kulon terhadap 1) intensitas serangan, 2) mortalitas hama, dan 3) populasi musuh alami hama penggerek batang padi kuning (*Scircpophaga incertulas*). Penelitian ini dilaksanakan di Laboratorium Perlindungan Tanaman Fakultas Pertanian Universitas Jenderal Soedirman dan sawah percobaan di Desa Pasir Kidul, Purwokerto Barat, Banyumas, Jawa Tengah pada bulan Oktober 2018 sampai Maret 2019. Penelitian ini dilaksanakan menggunakan Rancangan Acak Kelompok (RAK) Non Faktorial dengan 11 perlakuan dan 3 kali ulangan. Perlakuan yang digunakan adalah kontrol (P0), isolat asal Desa Cipete dengan konsentrasi 5 persen (P1), konsentrasi 10 persen (P2), 15 persen (P3), isolat asal Papringan dengan konsentrasi 5 persen (P4), 10 persen (P5), 15 persen (P6), isolat asal Desa Pasir Kulon dengan konsentrasi 5 persen (P7), 10 persen (P8), 15 persen (P9), dan insektisida dengan dosis anjuran (imidakloprid 2 ml/L). Variabel pengamatan yang diamati adalah mortalitas hama, intensitas serangan, dan musuh alami hama. Hasil penelitian menunjukkan bahwa: 1) metabolit sekunder jamur entomopatogen isolat P3 (isolat asal Cipete dengan konsentrasi 15 persen), P4 dan P6 (isolat asal Papringan dengan konsentrasi 5 dan 15 persen) dapat menekan intensitas serangan hama penggerek batang padi kuning (*Scirpophaga incertulas*) di lapang hingga 0 persen pada fase vegetatif (7 mst). P3 (isolat asal Cipete dengan konsentrasi 10 persen) dapat menekan intensitas serangan hingga paling rendah, yaitu 23,12 persen di bawah perlakuan kontrol dan 17,65 persen di bawah parlakuan insektisida imidakloprid 2 ml/L pada fase generatif (13 mst); 2) metabolit sekunder jamur entomopatogen isolat P7 (isolat Pasir Kulon dengan konsentrasi 5 persen) menimbulkan kematian tercepat pada jam keempat dan berturut-turut P7 (isolat Pasir Kulon dengan konsentrasi 5 persen), P4 (isolat asal Papringan dengan konsentrasi 5 persen), dan P5 (isolat Papringan dengan konsentrasi 10 persen) mampu menyebabkan kematian imago penggerek batang padi kuning *(Scirpophaga incertulas*) ≥ 80 persen mulai hari kedua setelah aplikasi; 3) metabolit sekunder jamur entomopatogen isolat asal Desa Cipete, Papringan, dan Pasir Kulon pada konsentrasi 5, 10, dan 15 persen tidak berdampak negatif terhadap musuh alami yang meliputi *Lycosa* sp., *Coccinella* sp., *Paederus* sp., *Oxyopes.*, *Atypena* sp., dan *Agriosnemisfemina* sp.

Kata kunci: *Scirpophaga incertulas, Beauveria basisiana, Paecilomyces* sp., Musuh Alami.

ABSTRACT

This research was aimed for knowing the effect of secondary metabolites entomopathogenic fungi originated from Cipete, Papringan, and Pasir Kulon village on to intensity of the attack, on mortality, and on population of natural enemy of yellow stem borer (Scirpophaga incertulas). This research was conducted in Plant Protection Laboratory of Agriculture Faculty, Jenderal Soedirman University and the yield on Pasir Kidul village, Weast Purwokerto, Banyumas Regency, Center of Java on Oktober to March 2019. Laboratory test was used a completely randomized block (CRB) Non Factorial with 11 treatments and 3 replications. Each plastic confinement fill in by 10 adult and plot size is 2 m x 1 m with spacing 25 cm x 25 cm.. The treatments respectively were control (P0), isolate from Cipete village with concentration 5 percent (P1), 10 percent (P2), 15 percent (P3), isolate from Papringan with concentration 5 percent (P4), 10 percent (P5), 15 percent (P6), isolate from Pasir Kulon village with concentration 5 percent (P7), 10 percent (P8), 15 percent (P9), and insecticide with recommended dosage (P10). Observation variable is mortality, intensity of the attack, and natural enemies. The conclusions were 1) secondary metabolites entomopathogenic fungi P3 (isolate from Cipete with concentration 10 percent), P4 and P6 (isolate from Papringan with concentration 5 and 15 percent) can reduce attack of the intensity of yellow rice stem borer (Scirpophaga incertulas) on field till 0 percent (7 weeks after planting). While on generative phase (13 weeks after planting), P3 (isolate from Cipete with concentration 15 percent) cause the lowest attack of the intensity. It is 23,12 percent under the control and 17,65 percent under insecticide treatment (imidakloprid 2 ml/L); 2) isolates secondary metabolites entomopathogenic fungi P7 (isolate from Pasir Kulon with concentration 5 percents) cause the fastest mortality at four hours after application and P7 (isolate from Pasir Kulon with concentration 5 percents), P4 (isolate from Papringan with concentration 5 percents), P5 (isolate from Papringan with concentration 10) percents cause mortality of yellow rice stem borer (Scirpophaga incertulas) ≥ 80 percent began at day two after applicantion; 3) secondary metabolites entomopathogenic fungi from Cipete, Papringan, and Pasir Kulon were not given negative impact for natural enemies, covers to Lycosa sp., Coccinella sp., Paederus sp., Oxyopes., Atypena sp., and Agriosnemisfemina sp.

Keywords: Scirpophaga incertulas, Beauveria basisiana, Paecilomyces sp., Natural Enemy.